a mapping which specifies an order for coupling the transformation components to form one or more pipelines;

a target for storing data generated by one or more of the pipelines;

memory for staging said data generated by a first of said plurality of transformation components;

a second of said plurality of transformation components operable to stream said data generated by said second of said plurality of transformation components; and

instructions for automatically staging or streaming of data by each of the plurality of transformation components.

REMARKS

Claims remaining in the present application are Claims 1, 5 - 12, and 16 - 22.

35 U.S.C. §102(b)

Claims 1 - 22 are rejected under 35 U.S.C. §102(b) as being anticipated by Young et.al. U.S. Pat. No. 5,781,911 (Young). The Applicant has reviewed Young and it is respectfully submitted that Claims 1, 5 - 12, and 16 - 22, as amended, are not anticipated by Young.

One of the problems associated with implementing datamarts and datawarehouses relates to transporting data in a timely fashion. The present claimed invention is drawn to a method and architecture which automatically optimizes extraction/transformation/loading (ETL) process in warehousing

applications. The transformation components of the present claimed invention automatically either stage or stream the data to optimize ETL throughput. Furthermore, each transformation component either pushes data to another transformation component, pulls data from another transformation component, or performs a push/pull operation on the data.

Claim 1

Independent Claim 1 is rejected under 35 U.S.C. §102(b) as being anticipated by Young et.al. U.S. Pat. No. 5,781,911. The rejection is respectfully traversed. It is respectfully submitted that Claim 1, as amended, is not anticipated by Young.

Amended Claim 1 recites in part:

"staging data in a first of said plurality of transformation components; and

streaming data in a second of said plurality of transformation components, wherein said staging and said streaming of data are performed automatically by software without human intervention."

In the embodiment of Amended Claim 1, the streaming or staging of data is performed automatically by software, without human intervention. "The degree of requisite staging by each transformation component is automatically determined and implemented, without any human intervention. Depending on the nature of the transformation, each transformation component will automatically select the optimal amount of staging. The staging can range continuously from zero staging (also known as streaming) to full staging." (Specification, page 9, lines 2 - 8). In so

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doing, the present claimed invention optimizes the throughput of data. For example, data which does not need to be staged is streamed through, saving time.

The staging or streaming of the present embodiment may also be seen in Figure 9 of the specification. Transformation component 920 does not need to perform data staging during its transformation because it simply changes each character from lower to upper case. Consequently, the output data (934 and 938) is immediately streamed onto the following stage, which is transformation component 940. However, transformation component 940 performs a summing function and does need to stage data as it transforms data and hence stores data in storage device 980. Thus, the throughput of data is optimized by either streaming or staging data.

In contrast, Young fails to disclose such an automated staging and streaming of data, where data from some transformation components is staged and data from other transformation components is streamed. Examiner refers to Figure 1 and Col. 1, lines 55-67 of Young. Young reads, "the extraction, transformation and loading manager then calls on the extractor, transformation and loader modules to respectively extract the data from the data sources, transform the extracted data and then loads them into the data marts according to the schedule defined by the system administrator using the system administrator module." Applicant does not understand this passage to describe staging some data while streaming other data, as the embodiment of Claim 1 does.

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For the foregoing rationale, it is respectfully asserted that amended Claim 1 overcomes the prior art cited of record and is therefore allowable.

Claim 12

Independent Claim 12 is rejected under 35 U.S.C. §102(b) as being anticipated by Young et.al. The rejection is respectfully traversed. It is respectfully submitted that amended Claim 12 is not anticipated or suggested by Young.

Claim 12 recites in part:

memory for staging said data generated by a first of said plurality of transformation components;

a second of said plurality of transformation components operable to stream said data; and

instructions for automatically staging or streaming of data by each of the plurality of transformation components.

It is asserted that amended Claim 12 is allowable for the same rationale as presented for amended Claim 1.

Additionally, Examiner cites Young as disclosing transformation components which stream data to another component (Young, col. 5, lines 5-22). With due respect, Young does not disclose streaming data in this passage. In contrast, Young explicitly discloses staging data in this passage: "Transport the extracted and transformed data of EMPLOYEE table to a Staging area called, say EMP_DATA." (Young col. 5, lines 11 -13, emphasis added).

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"Transport the extracted and transformed data of SKILL table to the EMP_DATA Staging Area". (Young col. 5, lines 18 - 19, emphasis added).

In contrast the embodiment of amended Claim 12 recites a limitation of automatically staging or streaming of data. By sometimes staging data and sometimes streaming data, this embodiment optimizes data transport.

For the foregoing rationale, it is respectfully asserted that Independent Claim 12, as amended, overcomes the prior art cited of record and is therefore allowable.

Claims 5 - 11 and 16 - 22 depend from amended Claims 1 and 12, which are believed to be allowable. As such, the rejection of Claims 5 - 11 and 16 - 22 has been overcome.

CONCLUSION

In light of the above listed amendments and remarks, reconsideration of the rejected Claims is requested. Based on the arguments and amendments presented above, it is respectfully submitted that Claims 1, 5 - 12 and 16 - 22 overcome the rejections of record and, therefore, allowance Claims 1, 5 - 12 and 16 - 22 is solicited.

Should the Examiner have a question regarding the instant amendment and response, the Applicants invites the Examiner to contact the Applicants' undersigned representative at the below listed telephone number.

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Respectfully submitted,
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